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10/751,389	01/05/2004	Tukaram K. Hatwar	87415RLO	2643

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EXAMINER	
CHAN, SING P	

ART UNIT	PAPER NUMBER
1734	

DATE MAILED: 11/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/751,389	HATWAR, TUKARAM K.	
	Examiner	Art Unit	
	Sing P. Chan	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) *3* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: In claim 4, line 5, "one or more light emitting layer(s) which produce white" should be " one or more light emitting layer(s) which produce white light." Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolk (U.S. 6,194,119) in view of Gaudiana et al (U.S. 6,624,839) and Wolk (U.S. 2005/0123850).

Regarding claim 1, Wolk '119 discloses a method of forming OLEDs. The method includes providing an anode on a substrate, a hole transport layer on the anode, a white light emitting polymer emitter on the hole transport layer (Col 18, lines 21-23), and a cathode on the emitter layer. (Col 16, line 66 to Col 17, line 4) The anode and cathode are formed of metal, alloys, metallic compounds, and metal oxides (Col 15, lines 48-54), which are deposited by vapor deposition (Col 10, lines 56-60). The light emitting layer and hole transporting layer are applied by transferring the material from a transfer donor element by coating the donor element with the material (Col 5, lines 47-50) and the element is brought into intimate contact with receptor or

substrate, a radiation source is used to heat the layer in an imagewise fashion to perform the imagewise transfer of the layer. (Col 7, lines 18-27) To form full color device, color filters are deposited prior to depositing light emitter onto the substrate, which satisfied the requirement of the color filters are deposited on one side of the substrate. (Col 18, lines 18-23) Wolk '119 is silent as to the light-emitting layer(s) is/are unpatterned using a transfer donor. However, forming an unpatterned light-emitting layer(s) is well known and conventional as shown for example by Gaudiana et al. Gaudiana et al discloses a method of forming light emitting diode (OLED) with color filter. The color filter arrays are either deposited onto the light-receiving surface of the substrate or are deposited onto the opposite light-emitting surface of the substrate (Col 7, lines 25-31), and the light-emitting layer emit a broad range of wavelengths for example, over the entire visible range as a white emitter and relied on the color filters to change the wavelength (Col 7, lines 5-17), which allows the electroluminescent layer, i.e. light-emitting layer, to be deposited on the hole transport layer continuously and not in patterned arrays (Col 9, lines 50-58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the color filter arrays on either side of the substrate and to provide the light-emitting layer as unpatterned layer(s) as disclosed by Gaudiana et al in the method of Wolk '119 to provide a color filter arrays on the either side substrate, which the radiation emission areas are defined by the color filters and eliminate the need to pattern the electroluminescent layer, i.e. light-emitting layer(s) and allows for continuous deposit of the light-emitting layer(s). (See Gaudiana et al, Col 9, lines 54-

58) Wolk '119 as modified by Gaudiana et al is silent as to the unpatterned layer(s) is/are transferred using a transfer donor. However, using a transfer donor to transfer an unpatterned layer to a substrate is well known and conventional as shown for example by Wolk '850. Wolk '850 discloses a method of transferring light emitting layer(s). The method includes providing a transfer donor with light emitting dendrimers (paragraphs45-46) and transferring the transfer layer(s) as a unit, i.e. unpatterned or in portions, i.e. patterned, by any suitable thermal transfer process (Paragraph 51), which are all equivalents

It would have been obvious to one of ordinary skill in the art at the time the invention was made to transfer an unpatterned light emitting layer(s) to the substrate using a transfer donor as disclosed by Wolk '850 in the method of Wolk '119 as modified by Gaudiana et al to provide processes of forming light emitting layer on a substrate, which are all equivalents.

Regarding claim 2, Wolk '119 discloses the material on the transfer donor element can be patterned via selective thermal transfer from the donor to a receptor (Col 5, lines 48-64), which forms any pattern such as line, circle, square, or other shape (Col 4, lines 40-41). Furthermore, the patterning can be done by thermal transferring of the layers from one donor to another donor to transfer the material (Col 6, lines 10-23) and the transfer layers are patterned prior to transfer from the donor to the substrate (Col 12, lines 53-56).

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolk (U.S. 6,194,119) in view of Kunimoto et al (U.S. 6,258,954), Gaudiana et al (U.S. 6,624,839) and Wolk (U.S. 2005/0123850).

Wolk '119 discloses a method of forming a donor element. The method includes providing a donor substrate such as polymer films, which are flexible (Col 7, lines 62-64), applying the coating material by solvent coating and drying (Col 5, lines 65-67), wherein the transfer material is transferred by radiation heating such as laser (Col 6, lines 60-66) and the material include a white light emitter (Col 18, lines 21-22). Wolk '119 is silent as to inspecting the coated donor element prior to transfer and the light-emitting layer(s) is/are unpatterned. However, inspecting the coating after forming the coating is well known and conventional as shown for example by Kunimoto et al. Kunimoto et al discloses a method of coating a substrate with fluorescence coating. The method includes applying a fluorescence coating material to a substrate by spraying, dipping, spreading or electrodeposition, drying or curing the resin of the coating, and inspecting fluorescence coating material after the coating is cured to detect any defects. (Col 26, lines 49-67)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to inspect the coating material on the coated substrate as disclosed by Kunimoto et al in the method of Wolk '119 to easily detect any defects or void to allow easy quality assurance. (See Kunimoto et al, Col 26, lines 62-67 and Col 27, lines 41-43) Wolk as modified by Kunimoto et al is silent as to the light-emitting layer(s) is/are unpatterned. However, forming the light-emitting layer(s) as unpatterned is well known

and conventional as shown for example by Gaudiana et al. Gaudiana et al discloses a method of forming an electroluminescent layer, i.e. an organic light emitter. The method includes depositing the light emitting layer(s) as unpatterned layers. (Col 9, lines 50-58)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the light-emitting layer as unpatterned layer(s) as disclosed by Gaudiana et al as in the method of Wolk '119 as modified by Kunimoto et al to eliminate the need to pattern the electroluminescent layer, i.e. light-emitting layer(s) and allows for continuous deposit of the light-emitting layer(s). (See Gaudiana et al, Col 9, lines 54-58) Wolk '119 as modified by Gaudiana et al is silent as to the unpatterned layer(s) is/are transferred using a transfer donor. However, using a transfer donor to transfer an unpatterned layer to a substrate is well known and conventional as shown for example by Wolk '850. Wolk '850 discloses a method of transferring light emitting layer(s). The method includes providing a transfer donor with light emitting dendrimers (paragraphs45-46) and transferring the transfer layer(s) as a unit, i.e. unpatterned or in portions, i.e. patterned, by any suitable thermal transfer process (Paragraph 51), which are all equivalents

It would have been obvious to one of ordinary skill in the art at the time the invention was made to transfer an unpatterned light emitting layer(s) to the substrate using a transfer donor as disclosed by Wolk '850 in the method of Wolk '119 as modified by combination of references to provide processes of forming light emitting layer on a substrate, which are all equivalents.

Response to Arguments

4. Applicant's arguments, see Page 3, lines 2-7, filed September 5, 2006, with respect to the rejection(s) of claim(s) 1, 2, and 4 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Wolk (U.S. 2005/0123850).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sing P. Chan whose telephone number is 571-272-1225. The examiner can normally be reached on Monday-Thursday 7:30AM-11:00AM and 12:00PM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher A. Fiorilla can be reached on 571-272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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